

introducing a delay in the propagation of the Messages at at least certain of the network nodes; and

for each of at least some of the incoming links of each node, registering a path or path length of a Synchronization Status Message received on that link as an attribute for that link.

21. The method of claim 20, further comprising selecting that incoming link having an attribute indicating the shortest path length from the master node as the link to synchronize on.

22. The method claim 20, further comprising propagating Synchronization Status Messages on initializing a new network.

23. The method of claim 20, further comprising sending Synchronization Status Messages at intervals to enable the network to cope with dynamic changes in network architecture.

24. The method of claim 20, wherein Synchronization Status Messages are generated in response to receipt at the master node of a Synchronization Status Request Message sent from another network node.

25. The method of claim 20, further comprising generating a Synchronization Status Message at a slave node in response to receipt at that slave node of a Synchronization Status Request Message sent from a neighboring slave node, with the Synchronization Status Message including an identification of the path over which the sending slave node has been synchronized.

26. The method of claim 20, wherein a node through which a Synchronization Status Message passes adds to the Message its own distance from the master node and, for each incoming link, a node registers the distance included

in a Synchronization Status Message received on that link as an attribute for that link.

27. The method of claim 20, wherein the network is a UMTS network.

28. The method of claim 20, wherein the delay introduced by a slave node is the same for all slave nodes which introduce a delay.

29. The method of claim 20, wherein the delay increases with distance from the master node.

30. The method of claim 20, wherein the delay to be introduced by a node for a Synchronization Status Message is identified in the Synchronization Status Message.

31. The method of claim 20, wherein the delay to be introduced by a node for a Synchronization Status Message is defined by a delay table stored at the node.

32. A telecommunications network, comprising a master node coupled to a Primary Reference Clock (PRC) and a plurality of slave nodes, each of the slave nodes being arranged to synchronize its internal clock to the PRC using data received on an incoming data link, and each of the slave nodes comprising:

means for receiving on an incoming link to the node, a Synchronization Status Message incorporating identities of the nodes through which the Message has passed;

means for registering a path or path length of the Synchronization Status Message as an attribute for the link on which it was received;

means for incorporating into a Message the identity of the node, thereby generating in the Message a path which has been followed by the Message; and

means for propagating a Synchronization Status Message having an incorporated identity to a neighboring node using an outgoing link,

wherein at least some of the nodes in the network are arranged to introduce a delay in the propagation of the respective Messages having incorporated identities.

33. A node for use in a multi-node telecommunications network, comprising:
means for receiving on an incoming link to the node a Synchronization Status Message incorporating identities of nodes through which the Message has passed;
means for registering a path or path length of a Synchronization Status Message as an attribute for the link on which it was received;
means for incorporating into a Message an identity of the node, thereby generating in the Message a node path which has been followed by the Message and forming a modified Message; and
means for propagating the modified Message to neighboring nodes using outgoing links, after a predefined time delay.

34. A method of synchronizing nodes of a telecommunication network in which a master node is coupled to a Primary Reference Clock (PRC) and a plurality of slave nodes are arranged to synchronize their internal clocks to the PRC using data received on incoming data links, the method comprising:

propagating Synchronization Status Messages through the network from the master node, with each slave node through which a Message passes incrementing a distance counter contained in the Message, thereby generating in each Message a path length taken by the Message;

introducing a delay in the propagation of the Messages at at least certain of the network nodes; and

for each of at least some of the incoming links of each node, registering the path length of a Synchronization Status Message received on a link as an attribute for that link.

35. A method of synchronizing nodes of a telecommunication network in which a master node is coupled to a Primary Reference Clock (PRC) and a plurality

of slave nodes are arranged to synchronize their internal clocks to the PRC using data received on incoming data links, the method comprising:

propagating Synchronization Status Messages through the network from the master node, with each node through which a Message passes incorporating into the Message its own identity, thereby generating in each Message a path which has been followed by the Message;

for at least one incoming link of each slave node, registering a path or path length of a Synchronization Status Message received on that link as an attribute for that link; and

for each slave node, identifying the best incoming link and synchronizing on that link after a time delay, indicated by the path of the Synchronization Status Message received on that link, has elapsed, provided no better link is identified in the meantime.

36. A method of synchronizing a node of a telecommunication network in which a master node is coupled to a Primary Reference Clock (PRC) and a plurality of slave nodes are arranged to synchronize their internal clocks to the PRC using data received on incoming data links, the method comprising:

sending a Synchronization Status Message Request from a node requesting to be synchronized to neighboring nodes in the network;

returning Synchronization Status Messages from the neighboring nodes to the requesting node, each Message including a path which has been followed by the Message from the master node;

synchronizing the requesting node on the incoming link over which the Message having a shortest path was received;

extending the path of the Message having the shortest path to include a identity the requesting node; and

propagating the Synchronization Status Message having the extended path to at least one of the neighboring nodes.

37. A node for use in a multi-node telecommunications network, comprising:

means for sending a Synchronization Status Message Request to neighboring nodes in the network;

means for receiving on incoming links to the node, respective Synchronization Status Messages incorporating identities of the nodes through which the Messages have passed;

means for registering paths or path lengths of the Synchronization Status Messages as attributes for the respective links on which they were received;

means for incorporating into the Message having the shortest path or path length the identity of the node, thereby generating in the Message a modified path which has been followed by the Message; and

means for propagating the modified Synchronization Status Message to at least certain neighboring nodes using outgoing links.

38. A method of synchronizing a node of a telecommunication network in which a master node is coupled to a Primary Reference Clock (PRC) and a plurality of slave nodes are each arranged to synchronize its internal clock to the PRC using data received on an incoming data link, the method comprising:

sending a Synchronization Status Message Request from a node requesting to be synchronized to neighboring nodes in the network;

returning Synchronization Status Messages from the neighboring nodes to the requesting node, each Message including a path length which has been taken by the Message from the master node;

synchronizing the requesting node on the incoming link over which the Message having the shortest path length was received;

extending the path of the received Message; and

propagating the Synchronization Status Message having the extended path to at least one of the neighboring nodes.--

IN THE ABSTRACT

Please delete the Abstract found on page 17 of the application and replace it with the New Abstract attached as a separate sheet.